

## Abstract

The present invention is directed to a method for monitoring the transmission quality of an optical transmission system, in particular of an optical wavelength division-multiplex network, in that an amplitude histogram of an optical signal (transmission signal) transmitted over the transmission system is plotted, and is classified, with the assistance of a neural network, according to bit error rates and/or causes of faults. The present invention eliminates the need for setting requirements for transmission mode, transmission format and/or transmission timing of the transmission system. Rather, it can be implemented for any signals at all. In addition, the present invention enables an allocation (assignment) to be made to causes of faults, which are not able to be determined by a conventional bit rate classification.